ARKANSAS DEPARTMENT OF TRANSPORTATION



SUBSURFACE INVESTIGATION

STATE JOB NO.				
FEDERAL AID PROJEC				
	ALSOBROOK	SLOUGH STR. & APP	RS. (S)	
STATE HIGHWAY	8	SECTION	6	
IN		DALLAS		COUNTY

The information contained herein was obtained by the Department for design and estimating purposes only. It is being furnished with the express understanding that said information does not constitute a part of the Proposal or Contract and represents only the best knowledge of the Department as to the location, character and depth of the materials encountered. The information is only included and made available so that bidders may have access to subsurface information obtained by the Department and is not intended to be a substitute for personal investigation, interpretation and judgment of the bidder. The bidder should be cognizant of the possibility that conditions affecting the cost and/or quantities of work to be performed may differ from those indicated herein.



ARKANSAS DEPARTMENT OF TRANSPORTATION

ARDOT.gov | IDriveArkansas.com | Scott E. Bennett, P.E., Director

MATERIALS DIVISION

11301 West Baseline Road | P.O. Box 2261 | Little Rock, AR 72203-2261 | Phone: 501.569.2185 | Fax: 501.569.2368

January 2, 2019

TO:

Mr. Rick Ellis, Bridge Engineer

SUBJECT:

Job No. 070375

Alsobrook Slough Str. & Apprs. (S)

Dallas County Route 8 Section 6

Transmitted herewith are a brief summary of the geology and site conditions, D50 scour analysis, and the logs of the borings conducted for the structure and approaches of the above referenced project. The samples obtained by the Standard Penetration Tests were brought to the laboratory and visually classified by experienced lab personnel to confirm the field identifications.

This project consists of replacing the Highway 8 Bridge, over Alsobrook Slough, between the towns of Manning and Princeton. The new bridge will be constructed on the existing alignment and a temporary detour structure will be constructed south of the existing. Three of the six requested borings were inaccessible due to steep slopes and high water levels in the channel. The three borings that were not obtained were located at: 109+99.5 C.L. Construction, 110+30.5 C.L. Construction, and 110+61.5 C.L. Construction. The three borings that were obtained had to be offset, due to traffic restrictions. The obtained borings are anticipated to represent uniform site conditions and should be adequate to design the proposed prestressed concrete pile foundations.

Embankment analyses included global stability with seismic design consideration utilizing a horizontal acceleration coefficient of 0.131, as provided by Bridge Design. The proposed embankment configuration provides for a satisfactory Factor of Safety for seismic and static conditions. If you have any questions concerning these recommendations, please contact the Geotechnical Section.

Michael C. Benson Materials Engineer

MCB:rpt:mlg

CC:

State Construction Engineer - Master File Copy

District 7 Engineer

G.C. File

GEOLOGY AND SITE CONDITIONS Job No. 070375 Alsobrook Slough Str. & Apprs. (S) Dallas County

Route 8 Section 6

Site Conditions

The existing bridge has seven spans and is constructed of a precast concrete deck with concrete caps on timber pilings and concrete end walls. The guardrail is composed of steel held up by concrete posts. A concrete footing has been poured around bent four with steel pilings placed on both sides of the pier. Some pilings appear to show some rotation. Alsobrook Slough flows in a southerly direction. The area surrounding the bridge is moderately wooded.

Site Geology

The proposed bridge locations are located on deposits mapped as Quaternary alluvial deposits. Alluvial deposits are typically composed of gravels, sands, silts, clays, and mixtures of any and/or all of these. The alluvial deposits here are located over the Sparta Formation of the Claiborne Group of Paleogene age.

The Paleogene deposits were encountered between 14.5 to 20.5 feet below ground level. The Sparta at the job site is composed of primarily silty sands down to a depth of 75 to 85 feet below ground level. At this depth, the lithology changes to consist primarily of sandy clay.

Subsurface Conditions

Based on the results of the borings, the subsurface stratigraphy may be generalized as follows:

0 to 25 Feet:

Varies from moist to wet, very loose to dense, brown and gray sandy silt to silty sand to clayey sand to very soft sandy clay. Gravel was encountered in some samples in this zone. Cobbles and boulders were encountered in two of the borings in the upper five feet of this zone.

25 to 75 Feet:

Consists of wet, medium dense to very dense, gray to brown silty sand to silt with sand. One sample in this zone contained hard sandy clay.

75 to 95 Feet:

Varies from wet, dense to very dense, brown to gray silt with sand to clayey sand to moist, very stiff to hard clay.

95 to 101.5 Feet:

Consists of moist to wet, hard, brown to gray sandy clay to clay:

D₅₀ AGGREGATE ANALYSIS FOR SCOUR CALCULATIONS

		Job No.	070375		
Creek Name	Station	Sample Type	Location	Depth (FT)	Aggregate Size (D50) (IN)
Alsobrook Slough	110+24	Slough Bank	24' Left of Construction C.L.	N/A	0.0029

SOIL TYPES

(SHOWN IN SYMBOL COLUMN) (PREDOMINANT TYPE SHOWN HEAVY)





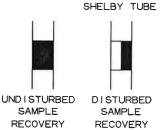






ORGANIC MATTER

SAMPLER TYPES (SHOWN IN SAMPLE COLUMN)





ROCK TYPES (SHOWN IN SYMBOL COLUMN)

Or

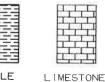
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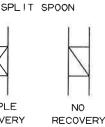
SILTSTONE







SAMPLE



ROCK CORING % RECOVERY INDICATED ON LOGS

SHALE and SANDSTONE RECOVERY TERMS DESCRIBING CONSISTENCY OR CONDITION

GRANULAR SOIL			CLAY	CL	AY-SHALE	SHALE			
Nº Value	Density	N' Value	Consistency	'N' Value	Consistency	'N' Value	Consistency		
0-4	Very Loose	0-1	Very Soft	0-1	Very Soft				
5-10	Loose	2-4	Soft	2-4	Soft	31-60	Soft		
11-30	Medium Dense	5-8	Medium Stiff	5-8	Medium Stiff	Over 60			
31-50	Dense	9-15	Stiff	9-15	Stiff	More than	2'		
Over 50	Very Dense	16-30	Very Stiff	16-30	Very Stiff	Penetrati	on		
		31-60	Hard	31-60	Hard	in 60 Blow	vs: Medium Har		
		0ver 60	Very Hard	0ver 60	Very Hard	Less than	2'		
						Penetrati	on		
						in 60 Blow	vs: Hard		

- 1. Ground water elevations indicated on boring logs represent ground water elevations at date or time shown on boring log. Absence of water surface implies that no ground water data is available but does not necessarily mean that ground water will not be encountered at locations or within the vertical reaches of these borings.
- 2. Borings represent subsurface conditions at their respective locations for their respective depths. Variations in conditions between or adjacent to boring locations may be encountered.
- Terms used for describing soils according to their texture or grain size distribution are in accordance with the Unified Soil Classification System.

Standard Penetration Test -- Driving a 2.0" O.D., 1-3/8" I.D. sampler a distance of 1.0 foot into undisturbed soil with a 140 pound hammer free falling a distance of 30 inches. It is customary to drive the spoon 6.0 inches to seat into undisturbed soil, then perform the test. The number of hammer blows for seating the spoon and performing the test are recorded for each 6 inches of penetration on the drill log. The field "N" Value (N_f) can be obtained by

adding the bottom two numbers for example: $\frac{6}{8-9} \Rightarrow 8+9=17$ blows / ft. The "N" Value corrected to 60% efficiency (N60) can be obtained by multiplying Nr by the hammer correction factor published on the boring log.

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Wet, Medium Dense, Gray Sandy Silt 20 SM NP 25 28-22 Wet, Dense, Gray Silty Sand NP 7 22-16 Wet, Dense, Gray Silty Sand with Gravel NP 6 9-12 Wet, Dense, Gray Silty Sand with Some Lignite 35					-									
Wet, Medium Dense, Gray Sandy Silt 20 Wet, Dense, Gray Silty Sand Wet, Dense, Gray Silty Sand NP 7 7 7 7 7 7 7 7 7 7 7 7 7	15					ND								
Wet, Medium Dense, Gray Sandy Silt 20			X		ML	INP						1		
Wet, Dense, Gray Silty Sand NP 25 28-22 Wet, Dense, Gray Silty Sand with Gravel Wet, Dense, Gray Silty Sand with Gravel NP 6 9-12 Wet, Dense, Gray Silty Sand with Some Lignite														
Wet, Dense, Gray Silty Sand SM NP Wet, Dense, Gray Silty Sand SM NP 7 22-16 Wet, Dense, Gray Silty Sand with Gravel SM NP Wet, Dense, Gray Silty Sand with Some Lignite SM NP 6 9-12				Wet, Medium Dense, Gray Sandy Silt										- 1
Wet, Dense, Gray Silty Sand SM NP Wet, Dense, Gray Silty Sand SM NP 7 22-16 Wet, Dense, Gray Silty Sand with Gravel SM NP Wet, Dense, Gray Silty Sand with Some Lignite SM NP 6 9-12														
Wet, Dense, Gray Silty Sand SM NP Wet, Dense, Gray Silty Sand SM NP 7 22-16 Wet, Dense, Gray Silty Sand with Gravel SM NP Wet, Dense, Gray Silty Sand with Some Lignite SM NP 6 9-12	20													
Wet, Dense, Gray Silty Sand SM NP 7 22-16 Wet, Dense, Gray Silty Sand with Gravel SM NP SM NP 6 9-12			abla		O.M.	NP					2	5		
25 SM NP 7 22-16 Wet, Dense, Gray Silty Sand with Gravel SM NP 6 9-12 Wet, Dense, Gray Silty Sand with Some Lignite -			\triangle		SIVI						28-	22		
25 SM NP 7 22-16 Wet, Dense, Gray Silty Sand with Gravel SM NP 6 9-12 Wet, Dense, Gray Silty Sand with Some Lignite -				Wet Danse Gray Silty Sand										
Wet, Dense, Gray Silty Sand with Gravel SM NP 7 22-16 NP 8 M NP 6 9-12 Wet, Dense, Gray Silty Sand with Some Lignite 35	===			wet, Delise, Gray Silty Sanu	D=0									
Wet, Dense, Gray Silty Sand with Gravel SM NP 7 22-16 NP 8 M NP 6 9-12 Wet, Dense, Gray Silty Sand with Some Lignite 35														
Wet, Dense, Gray Silty Sand with Gravel SM Vet, Dense, Gray Silty Sand with Some Lignite Wet, Dense, Gray Silty Sand with Some Lignite	25	90				ND					7	,		
Wet, Dense, Gray Silty Sand with Gravel SM Wet, Dense, Gray Silty Sand with Some Lignite Wet, Dense, Gray Silty Sand with Some Lignite		9456	XI		SM	'*'-						1		- 1
30 5 5 NP SM NP 6 9-12 SM Wet, Dense, Gray Silty Sand with Some Lignite 35														
Wet, Dense, Gray Silty Sand with Some Lignite		8		Wet, Dense, Gray Silty Sand with Gravel										ı
Wet, Dense, Gray Silty Sand with Some Lignite					-									
Wet, Dense, Gray Silty Sand with Some Lignite	30	30 G												
Wet, Dense, Gray Silty Sand with Some Lignite			X		SM	NP								
35			\rightarrow	*							9-1	'4		
35				Wet, Dense, Gray Silty Sand with Some Lignite										
					i - i									
	35													
		RKS	: *\	Water level reading at 17 hours was approximately	8' belov	v arol	ınd l	evel						

MATERIALS DIVISION - GEOTECHNICAL SEC. PAGE 2 OF 3 DATE: Sept 10, 11, and 12, 2018 DATE: Sept 10, 11, and 12, 2018 TYPE OF DRILLING: Hollow Stem Auger - Rotary Wash STATION: 110+94 LOCATION: 22' Right of Construction Centerline LOGGED BY: Connor Bunton HAMMER CORRECTION FACTOR: N/A COMPLETION DEPTH: 101.5
JOB NAME: Alsobrook Slough Str. & Apprs. (S) Route 8 Section 6 Hollow Stem Auger - Rotary Wash EQUIPMENT: Acker 1779 LOCATION: 22' Right of Construction Centerline LOGGED BY: Connor Bunton HAMMER CORRECTION FACTOR: N/A COMPLETION DEPTH: 101.5
Route 8 Section 6 Hollow Stem Auger - Rotary Wash EQUIPMENT: Acker 1779 LOCATION: 22' Right of Construction Centerline LOGGED BY: Connor Bunton COMPLETION DEPTH: 101.5
STATION: 110+94 LOCATION: 22' Right of Construction Centerline LOGGED BY: Connor Bunton COMPLETION DEPTH: 101.5
LOGGED BY: Connor Bunton HAMMER CORRECTION FACTOR: N/A COMPLETION DEPTH: 101.5
COMPLETION DEPTH: 101.5
P M M P DESCRIPTION OF MATERIAL SOIL SOIL SOIL REPORTS
GROUP D SIST C Q D C R C R C R C R C R C R C R C R C R C
P T M P L E S SURFACE ELEVATION: 216.4 DESCRIPTION OF MATERIAL SOIL GROUP SOUR ARIGHT DRAY WEIGHT DRA
H O L S SURFACE ELEVATION: 216.4 H O C S SURFACE ELEVATION: 216.4
CL 21 29 <u>5</u>
10-22 10-22
Wet, Hard, Gray Sandy Lean Clay
40
OM NP 17
— — SIVI 17-22
Wet, Dense, Gray Silty Sand
45
NP 6
Wet, Dense, Gray Sandy Silt with Trace Pyrite
— — Nodules
50
NP
SM
Wet, Very Dense, Gray Silty Sand
— —
55 NP 44
SM
— — Note Very Baras Cray Silly Sand
Wet, Very Dense, Gray Silty Sand
60 NP 23
Wet, Very Dense, Gray Silt with Sand
65 (1) (1) NP 16
$-$ SM $\begin{vmatrix} NP \\ 32-42 \end{vmatrix}$
Wet, Very Dense, Gray Silty Sand
70
REMARKS: * Water level reading at 17 hours was approximately 8' below ground level.

	^	_	^	_	•
_	<i>.</i>	•	h		~,

Type	Asphalt Cement %	Mineral Aggregate %
Surface Course	5.2	94.8
Binder Course	3.8	96.2
Base Course	3.6	96.4

Michael C. Benson Materials Engineer

MCB:pt:bjj Attachment

State Constr. Eng. – Master File Copy District 7 Engineer System Information and Research Div. CC:

G. C. File

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY STRENGTH TEST REPORT ***

DATE - 12/06/2017 SEQUENCE NO. = 1

JOB NUMBER - 070375 MATERIAL CODE - SSRV

SPEC. YEAR - 2014

SUPPLIER ID. - 1
COUNTY/STATE - 20

DISTRICT NO. - 07

JOB NAME - ALSOBROOK SLOUGH STR. & APPRS.(S)

* STATION LIMITS R-VALUE AT 240 psi

BEGIN JOB - END JOB 20

RESILIENT MODULUS

STA. 106 + 00 8433

REMARKS -

-

AASHTO TESTS : T190

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT MATERIALS DIVISION

AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS RECOMPACTED SAMPLES

Job No. Date Sampled: Date Tested: Name of Project: County:	070375 11/20/17 November 30, 2017 ALSOBROOK SLOUGH STR. & APPRS. (S) Code: 20 Name: DALLAS	Material Code Station No.: Location:	SSRVPS 106+00 15'RT
Sampled By:	FRAZIER/BOUIE/JORDAN	Depth:	0-5
Lab No.:	20173461	AASHTO Class:	A-2-4 (0)
Sample ID: LATITUDE:	RV692	Material Type (1 or 2) LONGITUDE:	: 2
1. Testing Inforn	nation:		
	Preconditioning - Permanent Strain > 5% (Y=	Yes or N= No)	N
	Testing - Permanent Strain > 5% (Y=Yes or N= Number of Load Sequences Completed (0-15)	=No)	N 15
2. Specimen Info	ormation:		
	Specimen Diameter (in):		
	Тор		3.95
	Middle		3.95
	Bottom		3.95
	Average Membrane Thickness (in):		3.95 0.01
	Height of Specimen, Cap and Base (in):		8.02
	Height of Cap and Base (in):		0.00
	Initial Length, Lo (in):		8.02
	Initial Area, Ao (sq. in):		12.18
	Initial Volume, AoLo (cu. in):		97.68
3. Soil Specimer	ı Weight:		
	Weight of Wet Soil Used (g):		3393.70
4. Soil Properties	8:		
	Optimum Moisture Content (%):		10.4
	Maximum Dry Density (pcf):		122.6
	95% of MDD (pcf):		116.5
	In-Situ Moisture Content (%):		N/A
5. Specimen Pro	perties:		
	Wet Weight (g):		3393.70
	Compaction Moisture content (%):		10.4
	Compaction Wet Density (pcf):		132.38
	Compaction Dry Density (pcf):		119.91
	Moisture Content After Mr Test (%):		10.2
6. Quick Shear T	est (Y=Yes, N=No, N/A=Not Applicable):		#VALUE!
7. Resilient Mod	ulus, Mr:	7961(5	Sc)^-0.13355(S3)^0.43565
8. Comments			
9. Tested By:	GW Da	ate: November 30, 2017	

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT **MATERIALS DIVISION**

AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS RECOMPACTED SAMPLES

SSRVPS 106+00 15'RT

Material Code Station No.: Location: ALSOBROOK SLOUGH STR. & APPRS. (S) November 30, 2017 11/20/17 070375 Name of Project: Date Sampled: Date Tested: Job No.

DALLAS FRAZIER/BOUIE/JORDAN Code: 20 20173461 Sampled By: Sample ID: Lab No.: County:

RV692 LATITUDE:

A-2-4 (0)

Material Type (1 or 2): 2

LONGITUDE:

AASHTO Class:

Depth:

0-5

	Chamber	Nominal	Actual	Actual	Actual	Actual	Actual	Actual	Average	Resilient	Resilient
	Confining	Maximum	Applied	Applied	Applied	Applied	Applied	Applied	Recov Def.	Strain	Modulus
PARAMETER	Pressure	Axial	Max. Axial	Cyclic Load	Contact	Мах.	Cyclic	Contact	LVDT 1		
		Stress	Load		Load	Axial	Stress	Stress	and 2		
						Stress					
DESIGNATION	လိ	S _{cyclic}	Р _{мах}	Poydic	Pcontact	S _{max}	Seyelic	Scontact	Havg	ځ	M
LINIT	psi	psi	sql	sql	lps	psi	psi	isd	ŗĽ	in/in	psi
Sequence 1	0.9	2.0	25.2	22.4	2.8	2.1	1.8	0.2	0.00093	0.00012	15,935
Sequence 2	0.9	4.0	47.4	44.6	2.8	3.9	3.7	0.2	0.00193	0.00024	15,193
Sequence 3	0.9	0.9	70.2	9.99	3.6	5.8	5.5	0.3	0.00309	0.00039	14,184
Sequence 4	0.9	8.0	94.4	88.5	5.9	7.8	7.3	0.5	0.00440	0.00055	13,235
Sequence 5	0.9	10.0	118.5	110.2	8.3	9.7	9.0	0.7	0.00563	0.00070	12,881
Sequence 6	4.0	2.0	25.0	22.4	5.6	2.1	1.8	0.2	0.00107	0.00013	13,748
Sequence 7	4.0	4.0	46.7	44.0	2.6	3.8	3.6	0.2	0.00242	0.00030	11,964
Sequence 8	4.0	0.9	68.0	65.3	2.7	5.6	5.4	0.2	0.00386	0.00048	11,136
Sequence 9	4.0	8.0	92.1	87.0	5.0	9.7	7.1	0.4	0.00520	0.000065	11,018
Sequence 10	4.0	10.0	115.9	108.5	7.4	9.5	8.9	9.0	0.00663	0.00083	10,777
Sequence 11	2.0	2.0	24.4	21.8	2.6	2.0	1.8	0.2	0.00142	0.00018	10,058
Sequence 12	2.0	4.0	45.1	42.5	2.6	3.7	3.5	0.2	0.00318	0.00040	8,798
Sequence 13	2.0	0.9	65.8	63.0	2.7	5.4	5.2	0.2	0.00492	0.00061	8,433
Sequence 14	2.0	8.0	88.3	84.1	4.2	7.3	6.9	0.3	0.00655	0.00082	8,458
Sequence 15	2.0	10.0	111.6	105.0	9.9	9.2	8.6	0.5	0.00806	0.00101	8,580

November 30,	
DATE	DATE
MD	
TESTED BY	REVIEWED BY

2017

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT **MATERIALS DIVISION**

AASHTO T 307-99 - RESILIENT MODULUS OF SUBGRADE SOILS RECOMPACTED / THINWALL TUBE SAMPLES

Job No.

070375

Material Code SSRVPS

Date Sampled:

11/20/17

Station No.: 106+00

Date Tested:

November 30, 2017

Location: 15'RT

Name of Project: ALSOBROOK SLOUGH STR. & APPRS. (S)

County:

Code: 20

Name: DALLAS

Sampled By:

FRAZIER/BOUIE/JORDAN

Depth: 0-5

Lab No.:

20173461

AASHTO Class: A-2-4 (0)

Sample ID:

RV692

Material Type (1 or 2): 2

LATITUDE:

LONGITUDE:

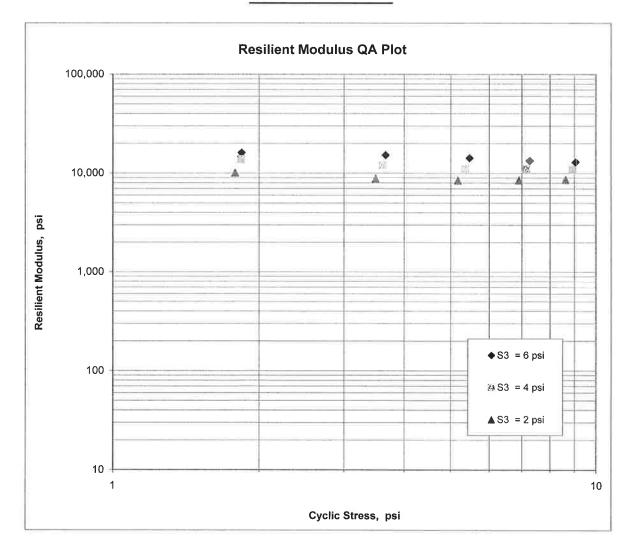
$$M_R = K1 (S_C)^{K2} (S_3)^{K5}$$

$$K1 = 7,961$$

$$K2 = -0.13355$$

$$K5 = 0.43565$$

$$R^2 = 0.98$$



JOB: 070375

Arkansas State Highway Transporation Department

JOB NAME: ALSOBROOK SLOUGH STR. & APPRS.(S)

Materials Division

COUNTY NO. 20 DATE TESTED 11/29/2017

Michael Benson, Materials Engineer

STA.#	LOC.	DEPTH	COLOR	#4	#10	#40	#80	#200	L.L.	P.I.	SOIL CLASS	<i>LAB</i> #:	%MOISTURE
106+00	15RT	0-5	RD/BR	69	58	50	37	27	ND	NP	A-2-4(0)	RV692	
106+00	05RT	0-5	BR/GR	94	85	76	59	44	19	6	A-4(0)	S688	11
106+00	15RT	0-5	RD/BR	57	49	42	31	23	21	7	A-2-4(0)	S689	18.5
115+00	05LT	0-5	BROWN	95	91	87	78	57	23	9	A-4(2)	S690	17.8
115+00	15LT	0-5	BROWN	92	89	86	71	45	ND	NP	A-4(0)	S691	12

DATE TESTED

Arkansas State Highway Transporation Department

11/29/2017

Materials Division

JOB: 070375
JOB NAME: ALSOBROOK SLOUGH STR. & APPRS.(S)

COUNTY NO. 20

Michael Benson, Materials Engineer

PAVEMENT SOUNDINGS AGG. BASE CRS CL-5 AGG. BASE CRS CL-5 6.0 AGG. BASE CRS CL-5 ACHIMBC 1.25 ACHMBC ACHIMBC 1.25 ACHIMSC 7.0W ACHMSC 6.0W ACHMSC 05RT 15RT 05LT STA.# LOC. 106+00 106+00 115+00

Thursday, December 07, 2017

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

SPEC. REMARKS - NO SUPPLIER NAME - STANNAME OF PROJECT - APROJECT ENGINEER - NO PIT/QUARRY - ARKANLOCATION - DALLASAMPLED BY - FRAIZESAMPLE FROM - TEST	375 BE ASSIGNED L SURVEY SAMPLE SPECIFICATION C TE LSOBROOK SLOUGH OT APPLICABLE SAS S, COUNTY R/BOUIE/JORDAN HOLE	HECK STR. & APPRS.	MATERIA SPEC. Y SUPPLIE COUNTY/ DISTRIC (S) DATE SA DATE RE DATE TE	E NO 1 L CODE - SSRVPS EAR - 2014 R ID 1 STATE - 20 I NO 07 MPLED - 11/20/17 CEIVED - 11/21/17 STED - 11/29/17
MATERIAL DESC SOI LAB NUMBER SAMPLE ID TEST STATUS STATION LOCATION DEPTH IN FEET MAT'L COLOR MAT'L TYPE LATITUDE DEG-MIN-S LONGITUDE DEG-MIN-S	- 2017345 - S688 - INFORMA - 106+00 - 05RT - 0-5 - BR/GR -	7 - 20 - SE TION ONLY - II - 10 - 15 - 0- - RI 9 23.50 -	0173458 589 NFORMATION ONLY 06+00 5RT -5 D/BR	20173459 S690 INFORMATION ONLY 115+00 05LT 0-5 BROWN 33 59 26.90 92 43 47.40
% PASSING 2 1 1/2 3/4 3/8 NO. NO.	IN IN IN IN IN 100 4 - 94 10 - 85 40 - 76 80 - 59	=0	.00 94 74 57 49 42 31	100 95 91 87 78 57
LIQUID LIMIT PLASTICITY INDEX AASHTO SOIL UNIFIED SOIL % MOISTURE CONTENT ACHMSC ACHMBC	- 19 - 6 - A-4(0) - 11.0 (IN) - 6.0W (IN) - 1.25		21 7 A-2-4(0) 18.5	- 23 - 9 - A-4(2) - 17.8 - 7.0W - 1.25
AGG. BASE CRS CL-5	(IN) - 7.0 		222	- 6.0 - - - - -

REMARKS - W=MULTIPLE LAYERS

AASHTO TESTS : T24 T88 T89 T90 T265

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/29/17 JOB NUMBER - 070375 FEDERAL AID NO TO BE AS PURPOSE - SOIL SUF SPEC. REMARKS - NO SPECT SUPPLIER NAME - STATE NAME OF PROJECT - ALSOBE PROJECT ENGINEER - NOT AI PIT/QUARRY - ARKANSAS LOCATION - DALLAS, CO SAMPLED BY - FRAIZER/BOI SAMPLE FROM - TEST HOLE MATERIAL DESC SOIL SU	SSI RVE IFI ROO PPL DUN UIE	Y SAMP CATION K SLOU ICABLE TY /JORDA	CHI GH S	ECK STR.			(S)	MATER SPEC SUPPI COUNT DISTR DATE DATE DATE	RECEIVED	 SSRVPS 2014 1
		1				TATITAL T	DOCKDIN			
LAB NUMBER	7	20173	460			7			-	
SAMPLE ID	-	S691				42			-	
TEST STATUS	-			ION	ONLY	-			-	
STATION	-		0			1963			_	
LOCATION						120 120			_	
DEPTH IN FEET		0-5				546			_	
00-010	#	BROWN				-			-	
MAT'L TYPE	77	2.2	- 0	0.7	0.0	175			-	
LATITUDE DEG-MIN-SEC						2.			_	
LONGITUDE DEG-MIN-SEC	-	92	43	4/.	.50					
% PASSING 2 IN.						*			144	
1 1/2 IN.	+					=			18	
3/4 IN.		100				=			() =	
3/8 IN.	=	96				-			-	
NO. 4	2	92							_	
NO. 10		89				-			U 	
NO. 40	=	86				= /			92	
NO. 80		71				-			92	
NO. 200	-	45								
LIQUID LIMIT	-	ND				-			-	
	-	NP				1770			=	
AASHTO SOIL	*	A-4 (0)			-			-	
UNIFIED SOIL		·	•			-			-	
% MOISTURE CONTENT	œ.	12	. 0			-			=	
	_									
	2					_			-	
	22					_			-	
	*					-			_	
	=					-			-	
	2					-			_	
	22					-			-	
	-					-			-	
	-					_			_	
REMARKS - W=MULTIPLE LA	YEF	lS								

REMARKS - W=MULTIPLE LAYERS

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AASHTO TESTS : T24 T88 T89 T90 T265

MICHAEL BENSON, MATERIALS ENGINEER

*** SOIL SURVEY / PAVEMENT SOUNDING TEST REPORT ***

DATE - 11/29/17 JOB NUMBER - 070375 FEDERAL AID NO TO BE AS PURPOSE - SOIL SUR SPEC. REMARKS - NO SPECT SUPPLIER NAME - STATE NAME OF PROJECT - ALSOBE PROJECT ENGINEER - NOT AN PIT/QUARRY - ARKANSAS LOCATION - DALLAS, CO SAMPLED BY - FRAIZER/BOX	SSIC RVE IFI ROO PPL	Y SAMPLE CATION CHECK K SLOUGH STR. & APP ICABLE TY	RS.(S)	DATE SAMPLED DATE RECEIVED	-	RV 2014 1 20 07 11/20/17 11/21/17
SAMPLE FROM - TEST HOLE MATERIAL DESC SOIL SU	RVE	Y - RESISTANCE R-VA	LUE ACTUAL		_	11/29/17
LAB NUMBER	-	20173461	in the second	=		
SAMPLE ID	-	RV692	8	-		
TEST STATUS	-	INFORMATION ONLY	3)	-		
STATION	_	106+00	•	=		
LOCATION	-	15RT		ā		
DEPTH IN FEET	-	0-5	• *	-		
MAT'L COLOR	_	RD/BR	-:	-		
MAT'L TYPE	-	3				
LATITUDE DEG-MIN-SEC	_	33 59 23.40	3	<u>~</u>		
LONGITUDE DEG-MIN-SEC	_	92 43 57.00				
% PASSING 2 IN.		-		-		
1 1/2 IN.			•	= ≤		
3/4 IN.			-	=		
3/8 IN.		_	- -	-		
NO. 4	-	69	-	-		
NO. 10		58	-	<u>2</u>		
NO. 40	-	50	_	=		
NO. 80	-	37 -	-	+		
NO. 200	-	27				
LIQUID LIMIT	_	ND :-		_		
	_		•	_		
AASHTO SOIL	_		Ta ==	_		
UNIFIED SOIL	_	A-2-4(0)	ž :	-		
	_		•	-		
% MOISTURE CONTENT	_					
	-	e	-	-		
	-	24		-		
	-	- 59	- -	-		
	-	39	-	-		
	-	8	5 5	- -		
	_	35	≅ ≅	-		
	_		-	_		
	-	9	=	-		
	-			-		
DEMARKS - W-WHITTELE IA	VET	o c				

REMARKS - W=MULTIPLE LAYERS

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AASHTO TESTS : T24 T88 T89 T90 T265

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